

## 1. Product Profile

**StenScreed® 400S** is a three-component polyurethane based, waterborne, cement and aggregate compounded, high performance polymeric floor coating. It is rapid curing, self-leveling and slip resistant.

**StenScreed® 400S** has an excellent thermal and chemical resistance. It forms a seamless long lasting and reliable coating system resistant to abrasion, penetration and chemical effects. It is resistant to organic and inorganic acids and alkalis, oils, fuels and anti-freezes and many chemicals. It creates a smooth, easy to clean, non-tainting, non-dusting and microbiologically inert surface on floors.

With its outstanding physical properties, **StenScreed® 400S** allows pressurized cold – hot water and steam cleaning. **StenScreed® 400S** is formulated regarding contemporary emission expectations and environment friendliness.

**StenScreed® 400S** is available in 18 kg sets.

## 2. Uses

**StenScreed® 400S** is suitable to use all indoor facilities. It is highly recommended for conditions requiring the maximum thermal shock and chemical resistance on a smooth, easy to clean surface.

**StenScreed® 400S** can be used at chemical plants, food processing plants, in wet or dry process areas, freezers, beverage and water filling facilities, restaurants, laboratories, medium and heavy-duty areas, depots, packing facilities, maintenance and repair areas, printing houses

## 3. Application

### 3.1. Surface Preparation

**StenScreed® 400S** It is very important to prepare the surface in a correct and proper manner. For this reason, if you provide detailed information about the condition of your surface, most suitable surface preparation procedures will be recommended by **Stenkim®**. The concrete substrate must have a sufficient compressive strength with minimum pull of strength of 1.5 MPa. **StenScreed® 400S** can be applied on fresh concrete over 7 days old after inspecting for the necessary pull of strength. There should be no water on application surface. Any water seeping through the concrete must be stopped.

## Polyurethane Based High Performance Floor Coating

### Highlights

- Excellent abrasion resistance
- Suitable for all heavy traffic conditions.
- It has very high chemical resistance
- Compatible thermal expansion to concrete
- Resistance to thermal shocks (+70 °C)
- Excessive impact resistance
- Waterborne structure allows to be applied on 7 days old concrete
- Solvent free and can be used all food processing plants, hospitals, laboratories and similar hygiene areas
- Non-slip surface can be used safely
- Microbiologically inert and easy to clean
- No extra expansion joints needed

All surfaces shall be clean, structurally sound and free from foreign materials, contaminants, oil, dirt, asphalt or old patch materials. Dust and loose materials must be removed. Naturally occurring thin crust created from the slurry on the top layer of new or old concrete should be removed by shot-blasting machines and/or appropriate equipment. All the slacks, holes and cracks must be repaired by appropriate primers.

### 3.2. Primer

**StenScreed® 400S** can be applied without primer application depending on the quality of the concrete substrate. Under dry concrete conditions **StenAst® 2EP** and **StenAst® 2EP-F** can be used as primer. If moisture content of concrete is above 5% waterborne epoxy-based primer **StenAst® 2EP-MT** should be used. Broadcast sand application should be made after primer application.

Please carry out the application instructions of the primers **StenAst® 2EP**, **StenAst® 2EP-F** or **StenAst® 2EP-MT**.

### 3.3. Mixing and Application

Main steps of application are; homogenization of A component, mixing the components A and B, adding component C to the A and B mix, pouring the **StenScreed® 400S** onto the surface, spreading with a toothed trowel for the desired thickness and removing air with a spike roller.

Pot life of **StenScreed® 400S** is short and affected by ambient temperature. All application steps (mixing, pouring, spreading, adjoining and rolling) should be completed in 12 to 15 minutes after starting of mixing A and B components. Take care to spread newly mixed **StenScreed® 400S** across the transition of previously applied mixes, before the surface begins to set. Always prepare a new mixed set of **StenScreed® 400S** while pouring one to allow continuous supply for the wet edge to avoid junction. It is helpful to assign teams for mixing, carrying and pouring in order to assure continuous supply.

**StenScreed® 400S** consist of 2.4 kg component A (colored liquid), 3.6 kg component B (amber color liquid) and 12 kg

specially sized aggregate and mineral additives. All components are packed in proportional mixing ratios. Over or under usage of any component will adversely affect the physical properties of the product. Do not add water, solvent or any other material to the mixture.

**StenScreed® 400S** A component is homogenized for 30 sec. with an appropriate mixer, then all of component A and B is poured into an appropriate size mixing pan, and mixed with low-speed electric stirrer (300-400 rpm) for 30 sec. After homogenization of A and B, without dumping all at once gradually add part C to the mixed resin. While mixing component C use heavy duty professional two bladed mixers. During the mixing process occasionally scrape down the sides and bottom of the container into the mixture to ensure that no non-mixed material left and the sides and bottom.

Duration of the mixture depends on the starting temperature of the product. Temperature of the product must be observed during this process. Mixing should continue until the mixture reaches to 28-30 °C. This heating takes 5 minutes in room conditions.

The mixed **StenScreed® 400S** poured onto the prepared substrate and spread with a toothed trowel. Take care to spread newly mixed **StenScreed® 400S** across the transition of previously applied mixes, before the surface begins to set. Remove entrapped air by a spiked roller immediately. Rolling must be done promptly after placing **StenScreed® 400S**. All application steps should be done in 10 minutes after mixing is completed. This period shortens in correlation with increasing weather temperature.

### 3. System Design

System Layers		Brand	Necessity	Dry Film Thickness	Cure Time
Surface Conditioner, Compatible Primer Type	Surface Conditioner	StenAst® S	Optional	Nano	30 min.
	Primer	StenAst® 2EP StenAst® 2EP-F StenAst® 2EP-MT	Optional	300-500 micron	Variable
	Aggregate	StenSilica	In case of primer use	-	
Coating Layer		StenScreed® 400S	Required	4-7 mm	24 hours
Top Coat		StenCoat® 2PU TOP FX StenCoat® 2PU TOP HD	Optional	0.1-0.2 mm	12-16 hours

## 5. Cleaning

Application tools can be cleaned by using **StenSolver CL** after application.

## 6. Safety

Applicators and supervisors must read Material Safety Data Sheet (MSDS) carefully and observe the considerations written therein. Emptied packages must be handled in compliance with relevant regulations and laws.

## 7. Maintenance

The materials must be stored at storages with controlled temperature of 10-30 °C and must be protected from

sunlight and moisture. The materials must be kept far from open fire and sources that may create fire hazard. Stored unopened in these conditions, the shelf life is 12 months. It is helpful to keep the materials at 20-30°C for one day before the application date.

## 8. Company Liability

The information contained in this document is based on site experience of and laboratory tests done by **Stenkim®** and meant to give general information. It is the purchaser's responsibility to ensure applicability of products to their use. All **Stenkim®** products are available in specified quality and conditions. The company accepts no liability whatsoever unless the transportation, storage, application conditions and customer use are overseen by **Stenkim®**.

**Stenkim®** reserves the right to update all information contained in this document without notice.

## 9. Technical Data

Property	Method	Result
Base Polymer		Waterborne Polyurethane
VOC Content %		0
Application Thickness		Min 4 mm
Density		1.88±0.02 g / cm <sup>3</sup>
Durometer Hardness (Shore)	ASTM D 2240	D85- 90
Pull-Off Strength (Concrete)	ASTM D 4541	> 3 Mpa (concrete fail)
Impact Resistance	ASTM D 2794, 1meter, 2kg	>200 kgcm (No Damage)
Elongation at Break	ASTM D 412 Die B	100%
Abrasion Resistance	ASTM D 4060, Taber dry CS10/100 rev/1kg	2mg
Impact Resistance	ASTM D 2794,1meter, 2kg	>200 kgcm (No Damage)
Thermal Expansion Coefficient	EN 1770	4.8 10-5 / °C
Cure shrinkage	EN 12617-1	<0.2%
Thermal Aging (70 0C)	EN 1062-11	Pass
Pot Life of the Mixture @20°C		10 minutes
Color	Catalog	RAL 1001 – Beige RAL 1006 – Yellow RAL 3009 – Red RAL 6010 – Green RAL 7037 – Dusty Grey RAL 7032 – Grey RAL 7046 – Tele grey

**Stenkim®** reserves the right to make changes in the values in this table at any time.